

Claims

1. A communications network comprising  
a plurality of transmitting stations and receiving stations for transmitting and  
5 receiving signals, said transmitting stations being adapted for transmitting a  
data signal as a series of data packets, wherein a data packet is scheduled to  
be transmitted by use of an available transmission resource, and said  
receiving stations being adapted for transmitting a reservation indicator for  
reception by transmitting stations,  
10 wherein a reservation indicator transmitted by a receiving station carries  
- a first reservation indicator value to indicate that a data transmission  
resource has been reserved by said receiving station for reception of the next  
data packet of a data signal from a transmitting station transmitting said data  
signal  
15 or  
- a second reservation indicator value to indicate that a data transmission  
resource has not been reserved by said receiving station for reception of the  
next data packet from said transmitting station or that the last data packet has  
not been received with acceptable interference from said transmitting station,  
20 and  
wherein transmitting stations receiving a reservation indicator carrying a first  
reservation indicator value transmitted from a receiving station to which no  
data signal has been transmitted by them will not transmit a data packet by  
use of the reserved transmission resource.
- 25
2. A communications network as claimed in claim 1,  
wherein each data packet is transmitted in a fixed data time slot within a time  
frame,  
wherein indicator time slots are assigned to said data time slots, and  
30 wherein a reservation indicator transmitted in an indicator time slot indicates if  
the associated data time slot has been reserved in the subsequent time frame  
for transmission of the next data packet by said transmitting station.

3. A communications network as claimed in claim 1,  
wherein said data packets are transmitted in a fixed data sub-carrier,  
wherein an indicator sub-carrier is assigned to said data sub-carrier, and  
wherein a reservation indicator transmitted in an indicator sub-carrier indicates  
5 if the associated data sub-carrier is reserved for transmission of the next data  
packet by said transmitting station.

4. A communications network as claimed in anyone of the preceding  
claims,  
10 wherein said first reservation indicator value is represented by transmitting a  
reservation indicator and wherein said second reservation indicator value is  
represented by transmitting no reservation indicator.

5. A communications network as claimed in anyone of the preceding  
15 claims,  
wherein a data transmission resource for the transmission of data packets of a  
signal is selected based on said reservation indicator.

6. A communications network as claimed in anyone of the preceding  
20 claims,  
wherein a transmitting station stops the transmission of data packets in the  
reserved data transmission resource upon receipt of a reservation indicator  
from the receiving station to which the transmission station transmits data  
packets, if said received reservation indicator carries a reservation indication  
25 value indicating that a data transmission resource has not been reserved by  
said receiving station for reception of the next data packet from said  
transmitting station and/or that the last data packet has not been received with  
acceptable interference from said transmitting station.

7. A communications network as claimed in anyone of the preceding  
30 claims,  
wherein a transmitting station transmits a continue indicator along with a data  
packet indicating if at least one further data packet shall be transmitted to the  
receiving station in the same data transmission resource.

8. A communications network as claimed in claim 7,  
wherein the receiving station, to which the transmitting station transmits a  
signal, transmits a reservation indicator value indicating that the data  
transmission resource has been reserved for reception of at least one further  
5 data packet if said continue indicator indicates that at least one further data  
packet shall be transmitted in the same data transmission resource.

9. A communications network as claimed in anyone of the preceding  
claims,  
10 wherein the transmission of a signal from a transmitting station to a receiving  
station is controlled based on received reservation indicators such that the  
data packets of the signal are transmitted in data transmission resources that  
are not reserved by said receiving station or other receiving stations for use by  
other transmitting stations.

15 10. A communications network as claimed in anyone of the preceding  
claims,  
wherein said data transmission resource is a data time slot, a data sub-carrier,  
a data carrier and/or a data code.

20 11. A communications network as claimed in anyone of the preceding  
claims,  
wherein said network is a cellular communications network, an ad-hoc  
communications network or a hybrid cellular/ad-hoc communications network.

25 12. A communications network as claimed in anyone of the preceding  
claims,  
wherein said transmitting stations are adapted for checking if a received  
reservation indicator is a valid reservation indicator.

30 13. A communications network as claimed in claim 12,  
wherein said transmitting stations are adapted for checking the validity of a  
received reservation indicator by determining the actual path gain for said  
received reservation indicator and by comparing it to the expected path gain.

14. A communications network as claimed in claim 13,  
wherein said transmitting stations are adapted for judging a received  
reservation indicator as invalid if the actual path gain is substantially different  
from the expected path gain, in particular if the percentage error between the  
5 actual path gain and the expected path gain is larger than a predetermined  
threshold, in particular larger than 5%.

15. A method of communicating in a communications network comprising a  
plurality of transmitting stations and receiving stations for transmitting and  
10 receiving signals comprising the steps of:  
transmitting a data signal as a series of data packets by said transmitting  
stations, wherein a data packet is scheduled to be transmitted by use of an  
available transmission resource, and  
transmitting a reservation indicator for reception by transmitting stations by  
15 said receiving stations,  
wherein said reservation indicator carries  
- a first reservation indicator value to indicate that a data transmission  
resource has been reserved by a receiving station for reception of the next  
data packet of a data signal from a transmitting station transmitting said data  
20 signal or  
- a second reservation indicator value to indicate that a data transmission  
resource has not been reserved by said receiving station for reception of the  
next data packet from said transmitting station or that the last data packet has  
not been received with acceptable interference from said transmitting station,  
25 and  
wherein transmitting stations receiving a reservation indicator carrying a first  
reservation indicator value transmitted from a receiving station to which no  
data signal has been transmitted by them will not transmit a data packet by  
use of the reserved transmission resource.

30 16. A receiving station for use in a communications network comprising a  
plurality of transmitting stations and receiving stations for transmitting and  
receiving signals, comprising:

receiving means for receiving a series of data packets of a data signal from a transmitting station, wherein a data packet is scheduled to be transmitted by use of an available transmission resource, and

transmitting means for transmitting a reservation indicator for reception by transmitting stations,

wherein said reservation indicator carries

- a first reservation indicator value to indicate that a data transmission resource has been reserved by said receiving station for reception of the next data packet of a data signal from a transmitting station transmitting said data signal

or

- a second reservation indicator value to indicate that a data transmission resource has not been reserved by said receiving station for reception of the next data packet from said transmitting station or that the last data packet has not been received with acceptable interference from said transmitting station, and

wherein transmitting stations receiving a reservation indicator carrying a first reservation indicator value transmitted from said receiving station to which no data signal has been transmitted by them will not transmit a data packet by use of the reserved transmission resource.

17. A transmitting station for use in a communications network comprising a plurality of transmitting stations and receiving stations for transmitting and receiving signals, comprising:

transmitting means for transmitting a series of data packets of a data signal to a receiving station, wherein a data packet is scheduled to be transmitted by use of an available transmission resource,

receiving means for receiving a reservation indicator transmitted from said receiving station,

wherein said reservation indicator carries

- a first reservation indicator value to indicate that a data transmission resource has been reserved by said receiving station for reception of the next data packet of a data signal from said transmitting station transmitting said data signal

or

a second reservation indicator value to indicate that a data transmission resource has not been reserved by said receiving station for reception of the next data packet from said transmitting station or that the last data packet has not been received with acceptable interference from said transmitting station,  
5 and

a control means for controlling the transmitting means such that upon receipt of a reservation indicator carrying a first reservation indicator value transmitted from a receiving station to which no data signal has been transmitted by said transmitting station a data packet will not be transmitted by use of the  
10 reserved transmission resource.